



Louisville Metro Air Pollution Control District
701 West Ormsby Avenue, Suite 303
Louisville, Kentucky 40203-3137



20 May 2019

Federally Enforceable District Origin Operating Permit Statement of Basis

Source: **Print Fulfillment Services, LLC**
2929 Magazine Street
Louisville, KY 40211

Owner: **Print Fulfillment Services, LLC**
2929 Magazine Street
Louisville, KY 40211

Application
Documents:

See Table 8 in section I

Public Comment Date: 04/02/2019

Permitting Engineer: Aaron DeWitt

Permit Number: O-1582-19-F

Plant ID: 1582

SIC: 2572

NAICS: 323110

Introduction:

This permit will be issued pursuant to District Regulation 2.17- *Federally Enforceable District Origin Operating Permits*. Its purpose is to limit the plant wide potential emission rates from this source to below major source threshold levels and to provide methods of determining continued compliance with all applicable requirements.

This permit action renews the operating permit for Print Fulfillment Services, LLC.

Jefferson County is classified as an attainment area for lead (Pb), nitrogen dioxide (NO₂), carbon monoxide (CO), particulate matter less than 10 microns (PM₁₀), and particulate matter less than 2.5 microns (PM_{2.5}). Jefferson County is classified as a nonattainment area for ozone (O₃). This facility is located in the portion of Jefferson County that is an attainment area for sulfur dioxide (SO₂).

Permit Application Type:

☐ Initial issuance

Permit Revision

☒ Permit renewal

☐ Administrative

☐ Minor

☐ Significant

Compliance Summary

☐ Compliance certification signed

☐ Compliance schedule included

☐ Source is out of compliance

☒ Source is operating in compliance

I. Source Information

1. **Product Description:** Print Fulfillment Services, LLC is a printing operation.
2. **Process Description:** Lithographic and digital printing.
3. **Site Determination:** There are no other facilities that are contiguous or adjacent to this facility
4. **Emission Unit Summary:**

Emission Unit	Equipment Description
U1	UV Coaters
U2	Lithographic Printing Presses
U3	Digital Printers

5. **Fugitive Sources:** None

6. **Permit Revisions:**

Revision No.	Permit No.	Issue Date	Public Notice Date	Change Type	Change Scope	Description
Initial	27871-14-F	03/24/2014	02/14/2014	Initial	Entire Permit	Initial Permit Issuance
N/A	O-1582-15-F	08/31/2015	07/29/2015	Sig.	Entire Permit	<p>VOC < 25 tn/yr to be FEDOOP STAR Exempt</p> <p>Removed TAC requirements</p> <p>Deleted non-applicable Permit Shield, Off-Permit Document, and Alternative Operating Scenario references</p> <p>Removed two printers: One (1) Ko Tai UV screen coater, model WPT1020, and One (1) four color Fujifilm FJ-1C1 digital inkjet printer with a Fujifilm Jpress 7200 IR</p>

Revision No.	Permit No.	Issue Date	Public Notice Date	Change Type	Change Scope	Description
						dryer Addition the following: New (E4) One (1) FMA roll coater New (E13) One (1) four color Fuji 720S (JP720F) with IR dryer New (E14, and E15) Two (2) four color Hewlett Packard HP 10000
R1	O-1582-15-F	08/28/2017	07/26/2017	Admin	Entire Permit	Updated to newest format; added capacities where missing on equipment lists; added calculation methodology (U1)
				Sig.	U3; General Cond.	Incorporation of construction permit C-1582-1001-17-F Removed GHG emission limits from General Condition 10, as it no longer applies
R2	O-1582-15-F	06/13/2018	N/A	Admin	U3	Incorporation of (E17) One (1) Konica Minolta Digital inkjet UV printer
N/A	O-1582-19-F	05/20/2019	04/02/2019	Renewal	Entire Permit	Renewal

7. Construction Permit History:

Permit No.	Effective Date	Description
C-1582-1000-17-F	05/30/17	One (1) 4-color Digital Hewlett Packard HP 10000, capacity 3450 sheets/hr (E16)

8. Permit Renewal-Related Documents

Document Number	Date Received	Description
96560	12/20/2018	Renewal application 100a, 100b, 100k and 100p
96749; 96750	01/14/2019	Questions and Response related to renewal application
96912	01/31/2019	Request for site visit
96921	1/31/2019	Change of environmental contact
96922	1/31/2019	Request for more information of new environmental contact
96923	1/31/2019	Environmental contact information
96924	1/31/2019	Request for site visit date confirmation
96925	1/31/2019	Request for site visit date confirmation
97032	2/11/2019	Site visit rescheduling confirmation
97092	2/15/2019	District request for application for unpermitted equipment
97135	2/19/2019	District clarification on request for application
97194	2/21/2019	Application 100a, 100b & 200g for E18 Wenzhou UV roller coater
97197	2/21/2019	District clarification on application fee

9. Emission Summary:

Pollutant	Plantwide PTE 2019	Pollutant that triggered Major Source Status (based on PTE)
CO	0	No
NO_x	0	No
SO₂	0	No
PM₁₀	0.41	No
VOC	262.53	Yes
Total HAPs	8.24	No
Single HAP	4.38	No

10. Applicable Requirements

- | | | |
|------------------------------------|---|------------------------------------|
| <input type="checkbox"/> 40 CFR 60 | <input checked="" type="checkbox"/> SIP | <input type="checkbox"/> 40 CFR 63 |
| <input type="checkbox"/> 40 CFR 61 | <input checked="" type="checkbox"/> District Origin | <input type="checkbox"/> Other |

11. Referenced MACT Federal Regulations: The source has no MACT requirements.

12. Referenced non-MACT Federal Regulations: There are no federal regulations for this source.

II. Regulatory Analysis

1. Acid Rain Requirements: Print Fulfillment Services, LLC is not subject to the Acid Rain Program.

2. Stratospheric Ozone Protection Requirements: Title VI of the CAAA regulates ozone depleting substances and requires a phase-out of their use. This rule applies to any facility that manufactures, sells, distributes, or otherwise uses any of the listed chemicals. Print Fulfillment Services, LLC does not manufacture, sell, or distribute any of the listed chemicals. The source's use of listed chemicals is that in fire extinguishers, chillers, air conditioners and other HVAC equipment.

3. Prevention of Accidental Releases 112(r): Print Fulfillment Services, LLC does not manufacture, process, use, store, or otherwise handle one or more of the regulated substances listed in 40 CFR Part 68, Subpart F, and District Regulation 5.15, *Chemical Accident Prevention Provisions*, in a quantity in excess of the corresponding specified threshold amount.

4. Basis of Regulation Applicability

a. Plantwide

Print Fulfillment Services, LLC is a potential major source for the pollutant VOC. Regulation 2.17 – *Federally Enforceable District Origin Operating Permits* establishes requirements to limit the plant wide potential emission rates to below major source threshold levels and to provide methods of determining continued compliance with all applicable requirements. The source requested limits of the criteria pollutant VOC < 25 ton/yr to be a FEDOOP STAR Exempt source as defined by Regulation 5.00, section 1.13.5.

Regulations 5.00 5.20, 5.21, and 5.23 (STAR Program) establishes requirements for environmental acceptability of toxic air contaminants (TACs) and the requirement to comply with all applicable emission

standards. Print Fulfillment Services, LLC took the total plantwide limits of 25 tpy for criteria pollutants to be a FEDOOP STAR Exempt source

Regulation 2.17, section 5.2, requires monitoring and record keeping to assure ongoing compliance with the terms and conditions of the permit. The owner or operator shall maintain all the required records for a minimum of 5 years and make the records readily available to the district upon request.

Regulation 2.17, section 7.2, requires stationary sources for which a FEDOOP is issued to submit an Annual Compliance Certification by April 15, of the following calendar year. In addition, as required by Regulation 2.17, section 5.2, the source shall submit an Annual Compliance Report to show compliance with the permit, by March 1 of the following calendar year. Compliance reports and compliance certifications shall be signed by a responsible official and shall include a certification statement per Regulation 2.17, section 3.5.

b. Emission Unit U1 – UV Coaters

i. Equipment:

P/PE	Capacity	Install Date	Applicable Regulation	Basis for Applicability
E1: Sakurai UV Screen coater, model MA102	4000 sheets/hr	1/28/10	2.17, 7.25	Regulation 2.17 applies to any stationary source, or one or more processes or process equipment at a stationary source, for which the owner or operator voluntarily applies for a federally enforceable District origin operating permit. Regulation 7.25 provides for the control of emission of volatile organic compounds from new (built after December 16, 1987) sources
E2: Sakurai UV screen coater, model MA102	4000 sheets/hr	4/25/08		
E3: Sakurai UV screen coater, model MA102	4000 sheets/hr	4/21/08		
E4: FMA UV roll coater	3000 sheets/hr	5/29/15		
E5: Ko Tai UV roll coaters, model ZUV-1200 All	3000 sheets/hr	3/28/06		
E6: Ko Tai UV roll coaters, model ZUV-1200 All	3000 sheets/hr	3/28/06		
E18: Wenzhou Qunying UV roller coater, model ZUVC740A	3000 sheets/hr	2/1/19		

ii. Standards/Operating Limits

1. VOC

- (a) Regulation 7.25, section 3 establishes VOC standards for using Best Available Control Technology (BACT).
- (i) The District has determined that the use of low-VOC UV-cured coatings and cleaning solvents represent BACT level of control with the VOC emission limit of 5.0 tons for E4, E5, E6, and E18.
- (ii) The District has determined that the use of low-VOC UV-cured coatings and cleaning solvents represent BACT level of control for E1, E2, and E3.

c. Emission Unit U2 – Lithographic Printing Presses

i. Equipment:

P/PE	Capacity	Install Date	Applicable Regulation	Basis for Applicability
E7: KBA, model Rapida 105 8-color lithographic sheet-fed non heat set printer	18000 sheets/hr	8/1/08	2.17, 7.25	Regulation 2.17 applies to any stationary source, or one or more processes or process equipment at a stationary source, for which the owner or operator voluntarily applies for a federally enforceable District origin operating permit. Regulation 7.25 provides for the control of emission of volatile organic compounds from new (built after December 16, 1987) sources
E8: KBA, model Rapida 74G, model RA74G5LALV2	18000 sheets/hr	3/26/07		
E9: KBA, model Karat 74, 4-color digital offset lithographic sheet-fed printing press	10000 sheets/hr	3/17/06		
E10: KBA, model Karat 74, 4-color digital offset lithography sheet-fed printing press	10000 sheets/hr	12/13/05		
E11: KBA, model Karat 74 offset lithography sheet-fed printing press	10000 sheets/hr	2/5/07		
E12: KBA, model Karat 74 offset	10000 sheets/hr	2/5/07		

P/PE	Capacity	Install Date	Applicable Regulation	Basis for Applicability
lithography sheet-fed printing press				

ii. **Standards/Operating Limits**

1. **VOC**

- (a) Regulation 7.25, section 3 establishes VOC standards for using Best Available Control Technology (BACT). The District has determined that the raw material usage content limits represent BACT level of control along with the VOC emission limits for lithography presses. These materials include but are not limited to: plate developer, coatings that are part of the inks, plate gum, blanket fix, silicon spray, and SMK-OD etching solution.

d. **Emission Unit U3 – Digital Printers**

i. **Equipment:**

P/PE	Capacity	Install Date	Applicable Regulation	Basis for Applicability
E13: Four color Fuji JP720S with IR dryer	2750 sheets/hr	4/24/15	2.17, 7.25	Regulation 2.17 applies to any stationary source, or one or more processes or process equipment at a stationary source, for which the owner or operator voluntarily applies for a federally enforceable District origin operating permit. Regulation 7.25 provides for the control of emission of volatile organic compounds from new (built after December 16, 1987) sources
E14: Four color Hewlett Packard HP 10000	3450 sheets/hr	4/24/15		
E15: Four color Hewlett Packard HP 10000	3450 sheets/hr	4/24/15		
E16: Four color Hewlett Packard HP 10000	3450 sheets/hr	5/4/16		
E17: Four color Konica Minolta AccurioJet KM-1 Digital Inkjet UV printer	3000 sheets/hr	1/24/18		

ii. **Standards/Operating Limits**

1. VOC

Regulation 7.25 requires that the combined emissions are limited to 5.0 tons per 12-consecutive month as a BACT analysis has not be submitted.

III. Other Requirements

1. **Temporary Sources:** The source did not request to operate any temporary facilities.
2. **Short Term Activities:** The source did not report any short term activities.
3. **Emissions Trading:** N/A
4. **Alternative Operating Scenarios:** The source did not request any alternative operating scenarios.
5. **Compliance History:**

Incid. #	Date	Regulation Violated	Settlement
06617	02/06/14	Reg. 2.03, section 5, Failure to Comply with District Permit	Agreement with fine

6. Calculation Methodology or Other Approved Method:

UV Coaters:

The VOC emissions from the UV coaters can be calculate according to the following methodology or another approved in writing by the District:

UV Coaters

$$\text{VOC} = \text{lb coating used} \times \text{VOC content of coating (\%)}$$

Lithographic Presses:

For the KBA presses, the owner or operator shall determine the VOC content (as applied) of each batch of press-ready fountain solution by one of the following methods.

- a. The owner or operator shall determine the VOC content of each batch of press-ready fountain solution by calculation. The calculation shall be kept in a batch log. The owner or operator shall document any deviation from the standard fountain solution makeup. Any manual additions of VOC made after each fountain solution batch is prepared shall be documented and the VOC content of the fountain solution shall be calculated to demonstrate compliance with the as applied fountain solution standard specified in this permit. Documentation of any deviations or manual additions shall include the date and time of occurrence.
- b. Alternatively, a sample of the fountain solution (as applied) may be taken from the fountain solution tray or reservoir and measured with a hydrometer, refractometer, or conductivity meter. Within 30 days after the effective date of this permit, the owner or operator shall establish the appropriate compliance indicator ranges for each of the analytical methods above the source will use to demonstrate compliance with the fountain solution VOC content (as applied). The owner or operator shall analyze the VOC content each time a fresh batch of press ready fountain solution is prepared and after each time a VOC containing material is added to the fountain solution reservoir following the initial solution makeup. The owner or operator shall maintain daily records of the results of each observed reading including the date, time, and the name of the person who observed the reading.

The emissions from the presses are based on VOC and HAP content of the materials used.

The VOC emissions from the lithographic presses can be calculated according to the following methodology or another approved in writing by the District:

Off-set Lithography Sheet-fed Presses

$$E_{VOC} = [(I_{VOC})(I_{Ret}) + (FS_{VOC}) + (BW_{VOC}) + (RW_{VOC}) + (C_{VOC}) + ((CS_{VOC})(R))]$$

E_{VOC} = lb VOC Emissions
 I_{VOC} = lb of sheet-fed ink used x weight % VOC in each ink
 I_{Ret} = 0.050 (1 – Ink oil retention factor of 0.95 for non-heatset inks)
 FS_{VOC} = Qty of fountain solution used (gallons) x VOC content of fountain solutions as applied (lb/gal)
 BW_{VOC} = Qty of blanket wash used (gallons) x VOC content of blanket wash as applied (lb/gal)
 RW_{VOC} = Qty of roller wash used (gallons) x VOC content of roller wash as applied (lb/gal)
 C_{VOC} = Qty of coatings used (gallons) x VOC content of coating as applied (lb/gal)
 CS_{VOC} = Qty of each cleanup solvent used (gallons) x VOC content as applied (lb/gal)

R = 1.0 or 0.50 (Fraction of cleanup solvent unrecovered)

An “R” factor of 0.50 (50 percent VOC credit) may be used for solvents (vapor pressure \leq 5 mm Hg at 68°F) used to manually clean press components if the rags/wipes used to manually clean press components are stored in closed/sealed containers immediately after use and the company can document the quantity of solvent recovered.

Digital Presses:

Digital Presses

$E_{VOC} = [I_{VOC} + PC_{VOC}]$

E_{VOC} = lb VOC Emissions

I_{VOC} = Qty of ink used (gallons) x VOC content of each ink as applied (lb/gal)

PC_{VOC} = Qty of plate cleaner used (gallons) x VOC content of plate cleaner as applied (lb/gal)

7. Insignificant Activities

Equipment	Quantity	PTE (tpy)	Basis for Exemption
Pressurized VOC storage vessels	2	0 VOC	Reg. 1.02, Appendix A
Konica Minolta KM-1 UV Digital Inkjet printer (see Emission Unit U3)	1	0.02 VOC	Regulation 1.02
Wenzhou Qunying UV Roller coater (See Emission Unit U1)	1	0.38 VOC	Regulation 1.02

- 1) Insignificant activities identified in District Regulation 1.02, Appendix A, may be subject to size or production rate disclosure requirements.
- 2) Insignificant activities identified in District Regulation 1.02, Appendix A shall comply with generally applicable requirements.
- 3) The owner or operator shall annually submit an updated list of insignificant activities that occurred during the preceding year, with the compliance certification due April 15th.
- 4) Emissions from Insignificant Activities shall be reported in conjunction with the reporting of annual emissions of the facility as required by the District.
- 5) The owner or operator may elect to monitor actual throughputs for each of the insignificant activities and calculate actual annual emissions, or use Potential to Emit (PTE) as the annual emissions for each piece of equipment.

- 6) The District has determined that no monitoring, record keeping, or reporting requirements apply to the insignificant activities listed, except for the equipment that has an applicable regulation and permitted under an insignificant activity (IA) unit.

Source-Wide Activities Not Otherwise Regulated		
Equipment	Quantity	Reg. Basis
Brazing, soldering, or welding equipment	1	EPA White Papers